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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/881,509	06/24/97	SCHENDEL	D P564-7015

HM12/0410
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EXAMINER	
DECLOUX, A	
ART UNIT	PAPER NUMBER
1644	25

DATE MAILED: 04/10/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
08/881,509	Schendel
Examiner	**Group Art Unit**
DeCloux, Amy	1644

☒ Responsive to communication(s) filed on *afterfinal amendment received 3-12-01*

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *2 and 4-45* is/are pending in the applicat

Of the above, claim(s) *8-25 and 27-44* is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *2, 4-7, 26, and 45* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☒ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☒ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

1. Applicant's after final amendment, received 3-12-01(Paper No. 23), is acknowledged and has ben entered. Claims 2 and 4-45 are pending. Claims 8-25, and 27-44 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

2. Claims 2, 4-7, 26 and 45 are being examined currently. Claim 26 is only being examined for the nucleic acid embodiment, since it was listed in the restriction as being in Groups I, II and III.

3. In view of applicant's amendment received 3-12-01(Paper No. 23), the 112 1st and 2nd paragraph rejections have been overcome. However as a result of a new sequence search, a new grounds of rejection has been applied to the instant claims based on new art has been found, and therefore the finality of the previous office action mailed 12/13/00 has been withdrawn.

4. The following is a quotation of the appropriate paragraphs of *35 U.S.C. § 102* that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 2, 4-7, 26 and 45 are rejected under 35 U.S.C. 102(a) as being anticipated by Jantzer and Schendel (Accession Number X98410) January 8,1997.

Jantzer and Schendel teach a nucleic acid sequence of a TCR that encodes an amino acid sequence comprising VGG, VLSG, ATG, DSG, VVSG, ALAG, APSG, and VGR, in a direct submission of Accession number X98410 as found in the GenEmbl database. Therefore, the referenced teachings anticipate the claimed invention. It is noted that Jantzer is not listed as an inventor on the instant patent application and therefore this reference is done by "another". Applicant therefore must clarify the inventive entity. Additionally, in order to overcome this reference it is necessary to provide a certified translation of the priority document 196 25 191.5 filed in Fed Rep. Germany 6-24-1996, 37 CFR 1.55 and MPEP 201.15.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to

enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 2, 4-7, 26 and 45 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a nucleic acid which codes for an alpha chain of the human T cell receptor comprising SEQ ID NO:23 where $X_1...X_n$ is one of the amino acid sequences recited in Part a) of Claim 2 of the instant application, a Fab, a single chain antibody, or soluble TCR fragments thereof , and a composition thereof, does not reasonably provide enablement for the broader recitation where $X_1...X_n$ are any amino acid sequences. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The specification disclosure is insufficient to enable one skilled in the art to practice the invention as broadly claimed without an undue amount of experimentation. Besides the nucleic acid that encodes for a human T cell receptor comprising SEQ ID NO:23, where $X_1...X_n$ is one of the amino acid sequences recited in Part a) of Claim 2 of the instant application, a Fab, a single chain antibody, or a soluble TCR fragment, or composition thereof, the specification fails to provide sufficient guidance in determining if a nucleic acid that encodes any amino acids designated by $X_1...X_n$, will encode an alpha chain of a T cell receptor (TCR) with the desired specificity. Furthermore, while recombinant techniques are available, it is not routine in the art to screen large numbers of nucleic acids which code for a specific CDR3 where the expectation of retaining similar encoding function is unpredictable based on the instant disclosure. Detailed information regarding the structural and functional requirements of the CDR3 region of an alpha TCR specific for kidney carcinoma, as disclosed in the instant specification, other than the CDR3 sequences recited in Part a) of claim 2 of the instant application, is lacking. Also, recognition of a T cell epitope depends on the interaction of CDR3 with the MHC-peptide complex. Therefore, predicting that any nucleic acid that encodes any amino acids designated by $X_1...X_n$, that would maintain the desired specificity is well outside the realm of routine experimentation; thus a skilled artisan would require guidance, such as information regarding the sequence of derivatives and fragments which preserve the TCR specificity, in order to make and use polynucleotides, probes, vectors, host cells and recombinant methods in a manner reasonably commensurate with the scope of the claims. Thus, it would require undue experimentation of one skilled in the art to practice the claimed invention. In re Fisher, 166 USPQ 18 indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute.

In view of the quantity of experimentation necessary, the limited working

examples, the unpredictability of the art, the lack of sufficient guidance in the specification, it would take undue trials and errors to practice the claimed invention.

8. Claims 2, 4-7, 26 and 45 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

In the instant case, the specification does not convey to the artisan that the applicant had possession, at the time of invention, of a nucleic acid molecule which codes for an amino acid sequence with an equivalent recognition specificity, as achieved with a T cell receptor comprising a CDR3 region with the amino acid sequence of SEQ ID NO:23 for the peptide components of the T cell receptor ligands as recited in Part B) of Claim 2 and dependent claims. SEQ ID NO:23 which is YCLXXXXXSARQLTF encompasses 5 residues denoted by "x" which can be any amino acid. Peptide components of the T cell receptor ligands can encompass any number of amino acid sequences. Due to this broad definition of a CDR3 sequence comprising SEQ ID NO:23 and the broad number of Peptide components of the T cell receptor ligands, none of these peptides (with the exception of the peptides recited in part A) of claim 2 and dependent claims) meets the written description provision of 35 USC 112, first paragraph. Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*" (See Vas-Cath, page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath, page 1116.). The skilled artisan cannot envision all the contemplated peptides that are components of the T cell receptor ligands, nor a T cell receptor comprising a CDR3 region with the amino acid sequence of SEQ ID NO:23, and therefore conception cannot be not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993) and Amgen Inc. V. Chugai Pharmaceutical Co. Ltd., 18 USPQ2d 1016.

Therefore, only the peptides of part A of Claim 2, but not the full breadth of the instant claims, meets the written description provision of 35 USC 112, first paragraph. Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 USC 112 is severable from its enablement provision.

(See page 1115.) Applicants are directed to the Revised Interim Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 64, No. 244, pages 71427-71440, Tuesday December 21, 1999.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the Applicant regards as his invention.

10. Claims 2, 4-7, 26 and 45 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) Claims 4-7, 26 and 45 are indefinite for being in improper Markush format. The Office recommends the use of the phrase "selected from the group consisting of ..." with the use of the conjunction "and" rather than "or" in listing the species. See MPEP 2173.05(h).

B) Claim 2 is also indefinite for being in improper Markush format. It is noted that Claim 2 has nested Markush groups.

The first commences at line 3 and lists members (a) and (b) in the rest of the body of the claim. This is improper because "selected from" must be followed by --the group consisting of--; also "or" at the end of Part (a) must be changed to --and--.

The second Markush group is nested within part(a) of the first Markush group. In line 4 of part (a) in claim 2, "comprising" must be changed to --consisting of--.

11. No claims are allowed.

12.7777 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy DeCloux whose telephone number is (703) 306-5821. The examiner can normally be reached Monday through Friday from 9:00 am to 6:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096

OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

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April 9, 2001

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